CHAPTER 15

ROOFS AND ROOF STRUCTURES

780 CMR 1501.0 GENERAL

1501.1 Scope: The provisions of 780 CMR 15 shall govern the materials, design, construction and quality of roofs and roof coverings.

1501.2 Applicability: All roofs and roof coverings shall meet either the performance requirements of 780 CMR 1505.0 or the prescriptive requirements of 780 CMR 1507.0.

780 CMR 1502.0 DEFINITIONS

1502.1 General: The following words and terms shall, for the purposes of 780 CMR 15 and as used elsewhere in 780 CMR, have the meanings shown herein.

Penthouse: An enclosed structure above the roof of a building, other than a roof structure or bulkhead, occupying not more than 33?% of the roof area (see 780 CMR 1510.3).

Roof: The roof slab or deck with its supporting members, not including vertical supports.

Roof covering: The covering applied to the roof for weather resistance, fireresistance or appearance.

Roof structure: An enclosed structure on or above the roof of any part of a building (see 780 CMR 1510.0).

780 CMR 1503.0 CONSTRUCTION DOCUMENTS

1503.1 General: For all roofs and roof coverings required by 780 CMR, the *construction documents* shall illustrate, describe and clearly delineate the type of roofing system, materials, fastening requirements and flashing requirements which are to be installed.

780 CMR 1504.0 WEATHER PROTECTION

1504.1 General: All roofs shall be covered with approved roof coverings properly secured to the building or structure to resist wind and rain. Roof coverings shall be designed, installed and maintained in accordance with approved manufacturer's installation instructions such that the roof covering shall serve to protect the building or structure.

780 CMR 1505.0 PERFORMANCE REQUIREMENTS

1505.1 Performance requirements: All roofs and roof coverings approved under 780 CMR 1505.0 shall comply with 780 CMR 1505.2 through l505.5.

1505.2 Wind resistance: All roofs and roof coverings shall be secured in place to the building or structure to withstand the *wind loads* of 780 CMR 1611.0 in accordance with the requirements of 780 CMR 1505.2.1 through 1505.2.3.

1505.2.1 Ballasted systems: All loosely laid ballasted roof coverings shall be designed to resist the wind pressures as determined by 780 CMR 1611.0.

1505.2.2 Low-slope systems other than ballasted: The low-slope roof systems (coverings) described in 780 CMR 1507.3 which are mechanically attached or adhered to the roof deck shall be designed to meet the design *wind load* of 780 CMR 1611.0 and shall be tested in accordance with FM 4450, FM 4470 or UL 580 listed in ***Appendix A***.

1505.2.3 Steep-slope systems: The steep-slope roof coverings described in 780 CMR 1507.2 which are mechanically attached to the roof slab or deck in accordance with 780 CMR 1507.2.1 through 1507.2.9 shall resist the basic wind speeds of Figure 1611.3, adjusted for *building height* above grade and building exposure.

Exception: Asphalt shingles shall be tested in accordance with ASTM D3161 or UL 997 listed in ***Appendix A***.

1505.3 Durability: All roofs and roof coverings shall be of approved materials such that those properties which establish fire classification, wind resistance and weather protection shall be maintained in accordance with 780 CMR 1505.3.1 and 1505.3.2.

1505.3.1 Physical properties: Roof coverings shall demonstrate physical integrity over the working life of the roof based upon 2,000 hours of exposure to accelerated weathering tests conducted in accordance with ASTM E838, G23, G26 or G53 listed in ***Appendix A***. Those roof coverings which are subject to cyclical flexural response due to *wind loads* shall not demonstrate any significant loss of tensile strength for unreinforced membranes or breaking strength for reinforced membranes when tested as herein required.

1505.3.2 Impact resistance: Roof coverings shall resist impact damage based on the results of tests conducted in accordance with ASTM D3746 or D4272, or CGSB 37-GP-52M or FM 4470 listed in ***Appendix A***.

1505.4 Compatibility of materials: All roofs and roof coverings shall be of materials that are compatible with each other and with the building or structure to which the materials are applied.

1505.5 Material specifications and physical characteristics: All materials for roofs and roof coverings shall conform to the applicable standards listed in 780 CMR 15. In the absence of applicable standards or where materials are of questionable suitability, testing by an *approved testing agency* shall be required by the code official to determine the character, quality and limitations of application of the materials.

780 CMR 1506.0 FIRE CLASSIFICATION

1506.1 Classification: Roof covering materials shall be classified in accordance with 780 CMR 1506.1.1 through 1506.1.4 when tested in accordance with ASTM E108 listed in ***Appendix A***.

1506.1.1 Class A roof coverings: Class A roof coverings are those which are effective against severe fire test exposure. Class A roof coverings shall include the following: masonry, concrete, slate, tile, cement-asbestos or assemblies listed and identified as Class A by an *approved testing agency*. Class A roof coverings shall be permitted for use in buildings or structures of all types of construction.

1506.1.2 Class B roof coverings: Class B roof coverings are those which are effective against moderate fire test exposure. Class B roof coverings shall include metal sheets and shingles or assemblies listed and identified as Class B by an *approved testing agency*. Class B roof coverings shall be permitted as the minimum for use in buildings or structures of Type 1 construction.

1506.1.3 Class C roof coverings: Class C roof coverings are those which are effective against light fire test exposure. Class C roof coverings shall include assemblies listed and identified as Class C by an *approved testing agency*. Class C roof coverings shall be permitted as the minimum for use in buildings or structures of Types 2, 3, 4 and 5A construction.

1506.1.4 Nonclassified roof coverings: Nonclassified roof coverings shall not be permitted.

Exceptions:
1. Buildings and structures of Type 5B construction with a *fire separation distance* of not less than 30 feet (9144 mm) from the leading edge of the roof.

2. Occupancies in Use Group R-3 located in detached buildings and accessory buildings thereto which have a *fire separation distance* of not less than six feet (1829 mm) from the leading edge of the roof.

1506.2 Testing: When testing wood shingles and shakes in accordance with ASTM E 108 (including the rain test) and ASTM D2898 listed in ***Appendix A***, the fire tests shall include the intermittent flame test, spread of flame test, burning brand test and flying brand test; additionally, at the conclusion of the rain test, test panels shall be subjected to the intermittent flame test, burning brand test and flying brand test.

1506.3 Fireretardant-treated shingles and shakes: Fireretardant-treated wood shakes and shingles shall be treated by impregnation with chemicals by the full-cell vacuum-pressure process, in accordance with AWPA C1 listed in ***Appendix A***. Each bundle shall have two *labels*: one identifying the manufactured unit and the manufacturer, and the other identifying the classification of the material in accordance with the testing required in 780 CMR 1506.2 (Class B or C), the treating company and the quality control agency.

780 CMR 1507.0 PRESCRIPTIVE REQUIREMENTS

1507.1 Prescriptive requirements: The requirements of 780 CMR 1507.2 and 1507.3 shall apply to all roofs and roof coverings unless specifically approved in accordance with 780 CMR 1505.0. Unless otherwise noted, all required underlayment shall be of Type 15 asphalt-saturated felt.

1507.2 Steep-slope roof coverings: Steep-slope roof covering materials and installations shall comply with 780 CMR 1507.2.1 through 1507.2.9. Where there is a possibility of ice forming along the eaves causing a backup of water, an ice shield that consists of at least two layers of underlayment cemented together or of a waterproofing membrane, shall extend from the eave's edge to a point at least 24 inches (610 mm) inside the exterior wall line of the building.

1507.2.1 Asbestos-cement shingles: Asbestos-cement shingles shall conform to ASTM C222 listed in ***Appendix A***. Asbestos-cement shingles shall not be installed on roof slopes below four units vertical in 12 units horizontal (4:12). Single-layer underlayment is required for all roof applications. Asbestos-cement shingles shall be secured to the roof with two fasteners per shingle.

1507.2.2 Asphalt roll roofing: Asphalt roll roofing shall conform to ASTM D224, D249, D371 or D3909 listed in ***Appendix A***. Asphalt roll roofing shall not be installed on roof slopes below one unit vertical in 12 units horizontal (1:12), and shall not be installed on roof slopes below three units vertical in 12 units horizontal (3:12) unless applied parallel to the eaves. Single-layer underlayment is required or all roof

slopes. Asphalt roll roofing shall be secured to the roof in accordance with approved manufacturer's installation instructions.

1507.2.3 Asphalt shingles: Asphalt shingles shall conform to ASTM D225 or D3462 listed in ***Appendix A***. Asphalt shingles shall not be installed on roof slopes below two units vertical in 12 units horizontal (2:12). Double-layer underlayment shall be required on roof slopes below four units vertical in 12 units horizontal (4:12). Single-layer underlayment is required on all other roof slopes. Asphalt shingles shall be secured to the roof with not less than four fasteners per strip shingle, or not less than two fasteners per individual shingle. Shingle headlap shall not be less than two inches (51 mm).

1507.2.4 Interlocking clay or cement tile: Interlocking clay or cement tile shall be installed only over solid sheathing or spaced structural sheathing boards. Interlocking clay or cement tile shall not be installed on roof slopes below four units vertical in 12 units horizontal (4:12). Horizontal battens shall be required on roof slopes over seven units vertical in 12 units horizontal (7:12). Single-layer underlayment is required over solid sheathing on all roof slopes. Reinforced underlayment shall be required where spaced sheathing is installed. Regardless of roof slope, the first three tile courses and all tile within three feet (914 mm) of roof edges, changes in roof slope or changes in slope direction, shall be fastened to the roof. For the field of the roof, fastening is not required on roof slopes below five units vertical in 12 units horizontal (5:12); every tile course shall be fastened on roof slopes five units vertical in 12 units horizontal (5:12) to less than 12 units vertical in 12 units horizontal (12:12); and every tile shall be fastened on roof slopes 12 units vertical in 12 units horizontal (12:12) and over. Tile overlap shall be in accordance with approved manufacturer's installation instructions.

1507.2.5 Noninterlocking clay or cement tile: Noninterlocking clay or cement tile shall not be installed on roof slopes below two and one-half units vertical in 12 units horizontal (2½:12). Double-layer underlayment is required on roof slopes below three units vertical in 12 units horizontal (3:12). Single-layer underlayment is required on all other roof slopes. Noninterlocking clay or cement tile shall be secured to the roof with two fasteners per tile. The minimum tile overlap shall be three inches (76 mm).

1507.2.6 Metal shingles: Metal shingles shall not be installed on roof slopes below four units vertical in 12 units horizontal (4:12). Single-layer underlayment is required for all metal shingles other than flat metal shingles on all roof slopes. Metal shingles shall be secured to the roof in accordance with approved manufacturer's installation instructions.

1507.2.7 Slate shingles: Slate shingles shall conform to ASTM C406 listed in ***Appendix A***. Slate shingles shall not be installed on roof slopes below two units vertical in 12 units horizontal (2:12). Double-layer underlayment shall be required on roof slopes below four units vertical in 12 units horizontal (4:12). Single-layer underlayment shall be required on all other roof slopes. Slate shingles shall be secured to the roof with two fasteners per slate. The minimum slate headlap shall be three inches (76 mm).

1507.2.8 Wood shingles: Wood shingles shall be identified by a *label* and subject to a quality control program administered by an *approved agency*. Wood shingles shall not be installed on roof slopes below three units vertical in 12 units horizontal (3:12). A single layer of underlayment is required at eaves, ridges, hips, valleys and all other changes of roof slope or direction. Wood shingles shall be secured to the roof with a maximum of two approved fasteners per shingle. The maximum weather exposures for wood

shingles shall be in accordance with Table 1507.2.8.

Table 1507.2.8
MAXIMUM WEATHER EXPOSURES
FOR WOOD SHINGLES

Grade	Shingle length (inches)[a]	Exposure (inches) based on slope (units vertical:units horizontal)	
		3:12 to 4:12	4:12 and steeper
No. 1 grade	16	3¾	5
	18	4¼	5½
	24	5¾	7½
No. 2 grade	16	3½	4
	18	4	4½
	24	5½	6½
No. 3 grade	16	3	3½
	18	3½	4
	24	5	5½

Note a. 1 inch = 25.4 mm

1507.2.9 Wood shakes: Wood shakes, other than preservative-treated southern yellow pine taper sawn shakes, shall be identified by a *label* and subject to a quality control program administered by an *approved agency*. Preservative-treated southern yellow pine taper sawn shakes shall be identified by a label and subject to the TFS *Grading Rules for Preservative Treated Southern Yellow Pine Tapersawn Shakes*, listed in ***Appendix A***, administered by an *approved agency*. Wood shakes shall not be installed on roof slopes less than four units vertical in 12 units horizontal (4:12). A single layer of felt interlayment shall be shingled between each course of wood shakes on all roof slopes. Wood shakes shall be secured to the roof with a

maximum of two fasteners per shake. The maximum weather exposure shall be 7½ inches (191 mm) for 18-inch-long shakes and ten inches (254 mm) for 24-inch-long shakes.

1507.3 Low -Slope roof coverings: Low slope roof covering materials and installation shall conform to roofing material/roofing system manufacturer's written installation and warranty requirements and otherwise comply with 780 CMR 1507.3.1 through 1507.3.7. In the absence of manufacturer's written installation and warranty requirements, roofs shall have a design slope of a minimum of one-fourth unit vertical in 12 units horizontal (¼:12) for drainage except for coal-tar built-up roofs which shall have a design slope of a minimum one-eighth unit vertical in 12 units horizontal (?:12). The attachment of insulation above the roof deck, the weight and distribution of ballast, the fastener type and fastening pattern, and the bitumen or adhesive application utilized in the installation of low-slope roof coverings shall meet the wind resistance requirements of 780 CMR 1505.2.

1507.3.1 Built-up roofing: Built-up roof covering materials shall comply with the standards in Table 1507.3.1. Provisions shall be made at deck edges, terminations and penetrations for mechanical fastening of the built-up roof covering and flashing materials. On slopes greater than two units vertical in 12 units horizontal (2:12), provisions shall be made for blind nailing the built-up roof covering to the roof to prevent slipping. Aggregate surfacing shall not be installed, and plies shall be applied parallel to the slope of the deck (strapping method) on roof slopes above three units vertical in 12 units horizontal (3:12). Built-up roof coverings shall be installed in accordance with approved manufacturer's installation instructions.

Table 1507.3.1
BUILT-UP ROOFING MATERIAL STANDARDS

Material	Standard[a]
Aggregate surfacing	ASTM D1863
Asphalt-coated glass fiber venting base sheet	ASTM D4601
Asphalt glass felt	ASTM D2178
Asphalt-saturated and asphalt-coated organic felt base sheet	ASTM D2626
Asphalt-saturated organic felt (perforated)	ASTM D226
Asphalt used in roofing	ASTM D312
Coal-tar saturated organic felt	ASTM D227
Coal-tar used in roofing	ASTM D450 Types I or III
Mineral-surfaced inorganic cap sheet	ASTM D3909
Venting, asphalt-saturated and asphalt-coated inorganic felt based sheet	ASTM D3672

Note a. Specific standards referenced are those listed in ***Appendix A***

1507.3.2 Thermoset single-ply roof coverings: Thermoset single-ply roof coverings shall comply with RMA RP-I, RP-2 or RP-3, or ASTM D4637 or CGSB 37-GP-52M listed in ***Appendix A***. Provisions shall be made at deck edges, terminations and penetrations for mechanical fastening of the thermoset single-ply roof covering and flashing materials. Ballasted roof coverings shall not be installed on roof slopes above two units vertical in 12 units horizontal (2:12). Thermoset single-ply roof coverings shall be installed in accordance with approved manufacturer's installation instructions.

1507.3.3 Thermoplastic single-ply roof coverings: Thermoplastic single-ply roof coverings shall comply with ASTM D4434 or CGSB 37-GP-54M listed in ***Appendix A***. Provisions shall be made at deck edges, terminations and penetrations for mechanical fastening of the thermoplastic single-ply roof covering and flashing materials. Ballasted roof coverings shall not be installed on roof slopes above two units vertical in 12 units horizontal (2:12). Thermoplastic single-ply roof coverings shall be installed in accordance with approved manufacturer's installation instructions.

1507.3.4 Modified bitumen roof coverings: Modified bitumen roof coverings shall comply with CGSB 37-GP-56M listed in ***Appendix A***.

Provisions shall be made at deck edges, terminations and penetrations for mechanical fastening of the modified bitumen roof covering and flashing materials. Modified bitumen roof coverings shall be installed in accordance with approved manufacturer's installation instructions.

1507.3.5 Spray-applied polyurethane-foam roof covering systems: Spray-applied polyurethane-foam insulation shall comply with ASTM C1029 listed in ***Appendix A***. A liquid-applied roof coating that complies with 780 CMR 1507.3.6 shall be applied to the top surface of the cured foam insulation in accordance with approved manufacturer's installation instructions. Foam plastics shall also conform to 780 CMR 2603.0.

1507.3.6 Liquid-applied roof coatings: Liquid-applied roof coatings shall comply with ASTM C836, C957, D1227 or D3468 listed in ***Appendix A***. Liquid-applied roof coatings shall be applied in accordance with approved manufacturer's installation instructions.

1507.3.7 Metal-sheet roof coverings: Metal-sheet roof covering systems which incorporate supporting structural members shall be designed in accordance with 780 CMR 2206.0. Metal-sheet roof coverings installed over structural decking shall comply with ASTM A361, A755 or B101 listed in ***Appendix A***. Metal-sheet roof coverings shall be installed in accordance with approved manufacturer's installation instructions.

780 CMR 1508.0 FLASHINGS

1508.1 General: Flashings shall be installed: at wall and roof intersections; at gutters; wherever there is a

change in roof slope or direction: and around all roof openings.

780 CMR 1509.0 ROOF INSULATION

1509.1 General: Rigid combustible roof insulation shall be permitted, provided that the insulation is covered with approved roof coverings directly applied thereto (see 780 CMR 2603.4.1.5).

780 CMR 1510.0 ROOF STRUCTURES

1510.1 General: All construction, other than aerial supports, clothes dryers and similar structures less than 12 feet (3658 mm) high, water tanks and cooling towers as hereinafter provided and flag poles erected above the roof of any part of any building or structure more than 40 feet (12192 mm) in *height*, shall be constructed of approved noncombustible materials.

1510.2 Scuttles: Trap doors and scuttles as required by 780 CMR 1027.0 shall not be less than two feet by three feet (610 mm by 914 mm) in size. In buildings of Types 1 and 2 construction, trap doors and scuttles shall be of approved noncombustible materials.

1510.3 Penthouses: *Penthouses* shall be considered a part of the next lower story, and the enclosure shall conform to the requirements for exterior walls of the building type as regulated by Table 602 and 780 CMR 14 except as modified herein.

1510.3.1 Recessed walls: Where the exterior wall of a *penthouse* is recessed five feet (1524 mm) or more from the exterior wall of the next lower story and the exterior wall of the next lower story is required to have a fireresistance rating of greater than 1½ hours, the *penthouse* exterior wall shall be: constructed with a fireresistance rating of not less than 1½ hours; covered on the outside with noncombustible, weatherproof material; and supported on *protected* steel or reinforced concrete construction.

1510.3.2 Unprotected openings: Where *protected* openings are not required by 780 CMR 705.0, windows and doors shall be constructed of any approved materials. Glazing shall conform to the requirements of 780 CMR 14, 24 and 26.

1510.4 Other enclosed roof structures: Enclosed roof structures, other than *penthouses*, shall be considered a story of the building and shall conform to the requirements for the building type as regulated by Table 602 and 780 CMR 14.

1510.5 Mansards and other sloping roofs: Mansards and other sloping roofs shall comply with 780 CMR 1510.5.1 and 1510.5.2.

1510.5.1 High-slope roofs: Every mansard roof or other sloping roof having a pitch of more than 60 degrees (1.05 rad) to the horizontal hereafter erected on any building or structure of other than Type 5 construction which is more than three stories or 40 feet (12192 mm) in *height*, shall be constructed of noncombustible materials with a fireresistance rating of not less than one hour. Where the building is more than seven stories or 85 feet (25908 mm) in *height*, such roofs shall afford the same fireresistance rating required for the exterior walls of the building, but are not required to exceed a 1½-hour fireresistance rating.

1510.5.2 Low-slope roofs: Where the pitch is 60 degrees (1.05 rad) or less to the horizontal, the mansard or other sloping roof located on any building shall be constructed of not less than the same materials as required for the roof of the building.

1510.6 Dormers: The sides and roofs of dormers shall be of the same type of construction as the main roof, except that where a side of the dormer is a vertical extension of an exterior wall, that side of the dormer shall be subject to the same fireresistance rating requirements as apply to the wall of the building. The roofs of dormers shall be protected

with approved roof coverings complying with 780 CMR 1506.0. The sides of dormers shall be protected with approved roof coverings or with material permitted for covering the exterior walls of the building.

1510.7 Water tanks: Water tanks shall be constructed and installed in accordance with 780 CMR 1510.7.1 through 1510.7.5.

1510.7.1 Supports: Water tanks having a capacity of more than 500 gallons (1.90 m^3) placed in or on a building shall be supported on masonry, reinforced concrete, steel or other approved noncombustible framing or on timber conforming to Type 4 construction; provided that, where such supports are located in the building above the lowest story, the support shall be fireresistance rated as required for Type 1A construction.

1510.7.2 Emergency discharge: A pipe or outlet shall be located in the bottom or in the side close to the bottom, or the tank shall be fitted with a quick-opening valve, to enable the contents to be discharged in an emergency to a suitable drain that complies with the ***248 CMR 2.00: the Massachusetts State Plumbing Code*** listed in ***Appendix A***.

1510.7.3 Location: A tank shall not be located over or near a *stairway* or elevator *shaft* unless a solid roof or floor deck is constructed underneath the tank.

1510.7.4 Tank cover: All roof tanks exposed to the weather shall have approved covers sloping towards the outer edges.

1510.7.5 Hoop and strap protection: Where metal hoops are utilized in the construction of wood tanks, such hoops shall be protected with approved corrosion-resistant coatings or manufactured from approved corrosion-resistant alloys.

1510.8 Cooling towers: Cooling towers erected on the roofs of buildings where the base of the tower is more than 55 feet (16764 mm) above *grade plane* shall be constructed of approved noncombustible material or fireretardant-treated wood except that drip bars are not required to be of noncombustible material or fireretardant-treated wood

1510.9 Miscellaneous roof structures: Except as here in specifically provided for, all towers, spires, dormers or cupolas shall be erected of the type of construction and fireresistance rating required for the building to which such structures are accessory as regulated by Tables 503 and 602. Where the *height* of such *appurtenant structures* exceeds 85 feet (25908 mm) above *grade plane* or where the area at any horizontal section of the tower, spire, dormer or cupola exceeds 200 square feet (19 m^2), or where utilized for any purpose other than as a belfry or architectural embellishment, the structure and the associated supports shall be of Type 1 or 2 construction, or of fireretardant-treated wood complying with 780 CMR 2310.0. Radio and television towers and antennas shall be constructed to comply with 780 CMR 3108.0 and 3109.0.

780 CMR 1511.0 ROOFTOP HELIPORTS

1511.1 General: 780 CMR 1511.0 governs the design and construction of rooftop facilities intended to accommodate the landing of helicopters. The utilization of a roof for landing shall be subject to the approval of the Federal Aviation Administration.

1511.2 Structural loads: The roof and all pertinent building components shall be designed for the *dead loads*, *live loads*, *impact loads* and vibrations imparted to the structure due to helicopter landing, including the single-skid point landing.

1511.3 Referenced standard: All rooftop heliports shall comply with NFiPA 418 listed in ***Appendix A***.

780 CMR 1512.0 REROOFING

1512.1 General: Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of 780 CMR 1505.0 or 1507.0. The repair of existing roofs and roof coverings shall comply with the provisions of 780 CMR 34, but more than 25% of the roof covering of any building shall not be removed and replaced within any 12-month period unless the entire roof covering is made to conform to the requirements for new roofing.

1512.2 Structural and construction loads: The structural roof components shall be capable of supporting the roof covering system and the material and equipment *loads* that will be encountered during installation of the roof covering system.

1512.3 Recovering vs. replacement: New roof coverings shall not be installed without first removing existing roof coverings where any of the following conditions occur:

1. Where the existing roof or roof covering is water soaked or has deteriorated to the point that the existing roof or roof covering is not adequate as a base for additional roofing.
2. Where the existing roof covering is wood shake, slate, clay, cement or asbestos-cement tile.
3. Where the existing roof has two or more applications of any type of roof covering.

Exception: Complete and separate roofing systems, such as standing-seam metal roof systems, which are designed to transmit all roof *loads* directly to the building's structural system and which do not rely on existing roofs and roof coverings for support, shall not require the removal of existing roof coverings.

1512.4 Reinstallation of materials: Existing slate, clay or cement tile shall be permitted for reinstallation, except that damaged, cracked or broken slate or tile shall not be reinstalled. Existing vent flashings, metal edgings, drain outlets, collars and metal counterflashings shall not be reinstalled where rusted, damaged or deteriorated. Aggregate surfacing materials shall not be reinstalled.

1512.5 Flashings: Flashings shall be reconstructed in accordance with approved manufacturer's installation instructions. Metal flashings to which bituminous materials are to be adhered shall be primed prior to installation.